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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,116	01/16/2004	Kiyofumi Hiroi	041230-0307652	5010
909	7590	03/22/2006	EXAMINER	
PILLSBURY WINTHROP SHAW PITTMAN, LLP			HUSON, MONICA ANNE	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	

1732

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.		Applicant(s)	
	10/758,116		HIROI ET AL.	
	Examiner		Art Unit	
	Monica A. Huson		1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/984,062.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>011604</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "the outer teeth" in lines 5-6. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, and 3-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Mains (U.S. Patent 1,824,825). Regarding Claim 1, Mains shows that it is known to carry out an injection molding process for producing a disk shape resin molded article comprising a rim forming peripheral area, a boss forming a concentric inner area, and a web having a disk configuration for connecting the rim and the boss (Figure 5), comprising injecting a molten resin into a cavity of a metal mold (Page 2, lines 4-13, 33-36), and pressing, in the molding process, a

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web site and at least one site selected from the group consisting of a boss site and a rim site in a thickness direction (Page 2, lines 33-42, 63-69).

Regarding Claim 3, Mains shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein at least the rim is pressed at least partially in the pressing step (Column 2, lines 33-42; It is being interpreted that the entire molded article is being pressed.).

Regarding Claim 4, Mains shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein said web comprises a middle circular site and an inclined area extending inwardly or outwardly from the middle circular site toward the rim and the boss with increasing thickness (Figure 5).

Regarding Claim 5, Mains shows the process as claimed as discussed in the rejection of Claim 4 above, including a method wherein said middle circular site has a uniform thickness, and said inclined area is formed circumferentially with extending inwardly and outwardly from the middle circular site toward the rim and the boss with increasing thickness (Figure 5).

Regarding Claim 6, Mains shows the process as claimed as discussed in the rejection of Claim 4 above, including a method wherein the thickness of said inclined area gradually increases toward the rim and the boss (Figure 5).

Regarding Claim 7, Mains shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein the disk shape resin molded article comprises a rim forming a peripheral circumference area, a boss forming a concentric inner area, a web having a disk configuration for connecting the rim and the boss, and outer teeth formed on the rim (Figure 5; Page 3, lines 34-35).

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Regarding Claim 8, Mains shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein the molded article is a resin molded gear (Page 2, lines 33-36).

Regarding Claim 9, Mains shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein the molded article is formed with an engineering plastic (Page 2, lines 33-36; Page 3, lines 102-105).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mains, in view of Goldman (U.S. Patent 3,846,522). Mains shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein said metal mold comprises a fixed mold member (Figure 1, element 3), a movable mold member disposed movably relative to the fixed mold member (Figure 1, element 7); a pressing core movably disposed or faced to at least one lateral side of the web (Page 2, lines 12-13); and a center pin disposed movably to insert into the bore of the boss and to contact with the lateral surface of the boss (Figure 1, element 5), said metal mold members, said pressing core and said center pin form the closed cavity by forward movement in a thickness direction (Figure 1). Mains does not show a cavity larger than the final article, nor does he explicitly teach an after pressure step. Goldman shows that it is known to

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carry out a method for molding disk articles wherein the cavity has a capacity larger than a volume of the final molded article by a contraction volume of the injected resin (Column 3, lines 48-68), wherein the pressing core is advanced to an original position separated from the fixed mold member with a distance corresponding to the volume of the injected molten resin, the molten resin is injected into said cavity in response to the completion of the advance movement of the pressing core to the original position, and the pressing core is further advanced to a predetermined position which corresponds to the contraction volume or shrinking amount of the injected molten resin in response to the injection of the molten resin (Column 3, lines 48-68; Column 7, lines 21-26; Column 8, lines 16-20, 48-50; Column 12, lines 19-29). Goldman and Mains are combinable because they are concerned with a similar technical field, namely, methods of molding disks. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Goldman's afterpressing step during Mains' molding process in order to avoid deformed articles resulting from unexpected shrinkage during cooling.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A. Huson whose telephone number is 571-272-1198. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Colaianni can be reached on 571-272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Monica A Huson
March 15, 2006



MICHAEL P. COLAIANNI
SUPERVISORY PATENT EXAMINER